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10/720,773	11/24/2003	Bruce A. Bowling	SDP304PA	4945

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EXAMINER

TRAN, HUAN HUU

ART UNIT PAPER NUMBER

2861

DATE MAILED: 09/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/720,773

Applicant(s)

BOWLING ET AL.

Examiner

Huan H. Tran

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2 and 4-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,7,12-15 and 20 is/are rejected.
- 7) ☒ Claim(s) 1,2 and 4-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 07/02/04.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Specification*

1. Claims 1-20 are objected to because of the following informalities: the claims are not numbered consecutively in accordance with 37 CFR 1.75(f). Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4-6, 9, 10, 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 4, 5 or 6 recites the limitation "the thermoplastic stock" in the body of the claim (line 1). There is insufficient antecedent basis for this limitation in the claim. It is noted that claim 3 is missing.

Claims 9, 10 or 11 recites the limitation "the non-curing thermoplastic adhesive stock" in the body of the claim (line 1). There is insufficient antecedent basis for this limitation in the claim.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 7, 12, 13, 15, 20 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kaminishi et al. (US Patent 6368515).

As to claims 1 and 12, Kaminishi et al. discloses a system/method for joining components of an ink jet printhead to negate a bow in a finished assembly, the method comprising the steps of:

providing at least two contiguous ink jet printhead components required to be joined (orifice plate 38 and partition 37 in Fig. 10A) ; and

providing a flexible lamination layer (thermoplastic adhesive layer 42b in Fig. 10A) between the at least two contiguous ink jet components (orifice plate 38 and partition 37 in Fig. 10A) to join the at least two ink jet components .

As to claims 7 and 13, it is clear that the flexible lamination layer disclosed in Kaminishi et al. is a thermoplastic adhesive stock. Col. 8, lines 45-48.

As to claim 15, it is submitted that the thermoplastic polyimide adhesive layer 42b disclosed in Kaminishi et al. is elastic in nature and hence it would reduce lamination stress between components.

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As to claim 20, it is seen that Kamanishi et al. teaches the limitation "wherein the thermoplastic stock reduces component bow in the operating or printing condition. See Col. 9, lines 1-3.

6. Claims 1, 7, 12, 13, 15 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Wong et al. (US Patent 6554399).

As to claims 1 and 12, Wong et al. discloses a system/method for joining components of an ink jet printhead to negate a bow in a finished assembly, the method comprising the steps of:

providing at least two contiguous ink jet printhead components required to be joined (die 12 and substrate 14 in Fig. 1) ; and

providing a flexible lamination layer (adhesive layer 30 in Fig. 1) between the at least two contiguous ink jet components (die 12 and substrate 14 in Fig. 1) to join the at least two ink jet components (see Col. 4, lines 21-48).

As to claims 7 and 13, it is clear that the flexible lamination layer disclosed in Wong et al. is a thermoplastic adhesive stock. Col. 4, lines 45-48.

As to claim 15, it is submitted that the thermoplastic polyimide adhesive layer disclosed in Wong et al. is elastic in nature and hence it would reduce lamination stress between components.

#### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Kamanishi et al. or Wong et al.

Admitted prior art discussed with reference to Figs. 1A, 1B of the drawings of the present application discloses an ink jet printhead wherein a plurality of series contiguous ink jet components are laminated to each other. Admitted prior art does not teach the use of thermoplastic adhesive stock to laminate the contiguous components.

Kamanishi et al. or Wong et al. discloses the use of thermoplastic adhesive, for laminating contiguous components of an ink jet head.

Therefore, it would have been obvious to one of ordinary skill in the art to use thermoplastic adhesive to laminate contiguous components of an ink jet head as taught by Kamanishi et al. or Wong et al. in laminating a plurality of series contiguous ink jet components of admitted prior art for the desirability of such thermoplastic adhesive discussed in Kamanishi et al. or Wong et al.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamanishi et al.

Kamanishi et al. discloses the claimed invention except for the claimed thickness of the thermoplastic stock (see Col. 8, lines 47-49). It would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the thickness, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

***Allowable Subject Matter***

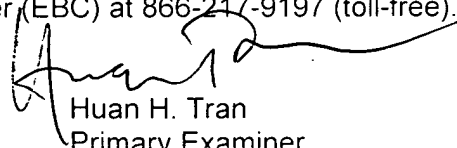
10. Claims 8, 16, 17, 18, 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: Prior art of record do not teach or suggest the claimed characteristics of the thermoplastic stock as recited in claims 8, 16-19. The thermoplastic stock in Kamanishi et al. is cured in the lamination process (Col. 9, lines 5-11).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huan H. Tran whose telephone number is (571) 272-2261. The examiner can normally be reached on at work on W-F from 6:30 to 5; T are telework days.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Talbott can be reached on (571) 272-1934. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Huan H. Tran  
Primary Examiner  
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